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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,813	09/08/2003	Hironori Endo	Q77384	7095

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WASHINGTON, DC 20037

EXAMINER
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NGUYEN, LAMSON D

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/656,813	ENDO, HIRONORI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Lamson D. Nguyen	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Arquilevich et al. (6,447,089).

**Arquilevich et al teach a liquid ejection method comprising:**

#### **Claim 1:**

- detecting a position of an end of medium in a main scanning direction  
(column 3, lines 19-21 teach detecting a leading edge of a paper which is equivalent to an end of a paper wherein the leading edge of the paper extends in the main-scanning direction)
- changing, according to a feed amount of said medium after said portion of the end of the medium has been detected, at least either a starting position or a terminating position, in a main-scanning direction, for ejecting said liquid from the ejection head being moved, wherein the main-scanning direction is in a direction in which the ejection head travels (column 8, lines 12-13 and lines 24-32)

**Claim 2:**

- said head starts liquid ejection at the starting position (column 7, lines 4-5) and terminates liquid ejection at the terminating position (column 7, lines 32-33)
- the greater the feed amount is, the further the start of liquid ejection is advanced or the further the termination of liquid is delayed in the main-scanning direction (it is inherent that when an amount of medium is advanced so that the trailing edge can be within the field of view of array #55, termination of ejection is that much delayed)

**Claim 3:**

- wherein the start of liquid ejection is advanced or said termination of liquid ejection is delayed in proportion of a magnitude of said feed amount (it is inherent that the termination of liquid ejection has to be delayed and be proportional to a magnitude of a medium feed amount)

**Claim 5:**

- wherein said liquid is ejected targeting on an entire surface of the medium (column 1, lines 29-30)

**Claim 10:**

- said liquid is ink

- printing is carried out on a printing medium, which is said medium, by ejecting said ink from the ejection head (column 1, lines 18-23)

**Claim 11:**

- a liquid ejecting apparatus comprising a moveable ejection head (column 1, lines 19-21)
- a feed mechanism for feeding a medium (col 2, lines 37-41)
- a sensor for detecting a position of an end of the medium (col 3, lines 46-48, figure 3, detect switch 53)
- wherein at least either a starting position or a terminating position for ejecting said liquid from the ejection head (column 5, lines 24-28)

Claims 1, 4-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Quintana (5,466,079).

***Quintana teaches a printing method comprising:***

**Claim 1:**

- detecting a position of an end of said medium in a main-scanning direction (column 8, lines 13-14)
- changing according to a feed amount of the medium fed after the position of the end of the medium has been detected, at least either a starting position or a terminating position, in a main-scanning direction, for ejecting said liquid

from the ejection head, wherein the main-scanning direction is a direction in which the ejection head moves (column 8, lines 22-23)

**Claim 4:**

- wherein at least either said starting position or the terminating position is changed according to said feed amount after the position of the end of the medium has been detected (column 8, lines 10-14)
- wherein at least either said starting position or said terminating position for ejecting said liquid from said ejection head is changed according to a predicted maximum skew angle of the medium (column 5, lines 37-40)

**Claim 5:**

- wherein said liquid is ejected targeting on an entire surface of said medium (column 6, lines 57-62 and column 7, line 32)

**Claim 6:**

- wherein said position of the end of said medium is detected by a sensor (column 7, lines 31-32)
- said sensor includes a light emitting section for emitting light (col 7, lines 21-22)
- a light receiving sensor for receiving light that moves in a main-scanning direction in accordance with a movement of said sensor in the main-scanning

direction (col 2, lines 67-col 3, lines 1-2) where the optical sensor includes a light source and a light detector (col 7, lines 17-18)

- said position of the end of the medium is detected according to a change in an output value of said light receiving sensor that is caused by passing of said light (col 4, lines 25-27) which has been emitted from said light emitting section moving in said main-scanning direction, across said end of the medium (col 2, line 67-col 3, line 2)

**Claim 7:**

- wherein each position of two ends of said medium that differ in position (column 7, lines 28-32) in the main is detected according to a change in output values of said light receiving sensor that is caused by passing of said light direction (col 7, lines 21-25), which has been emitted from said light emitting section moving in said main-scanning direction, across each of said two ends of said medium (col 3, lines 1-2)

**Claim 8:**

- wherein said position of the end of said medium is detected by a sensor (col 7, lines 31-32)
- said sensor is provided in/on a movable member that comprises said ejection head (col 4, lines 16-17)

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- said sensor includes a light emitting section for emitting light (col 7, lines 21-22)
- a light receiving sensor for receiving said light that moves in a main-scanning direction in accordance with a movement of said sensor in the main-scanning direction (col 2, line 67-col 3, line 2) where the optical sensor includes a light source and a light detector (col 7, lines 17-18)

**Claim 9:**

- wherein while making said moving member move in a main-scanning direction said position of the end of said medium is detected according to a change in an output value of said light receiving sensor that is caused by passing of said light (col 4, lines 25-27) where the optical sensor includes a light detector (col 7, lines 17-18), which has been emitted from the light emitting section moving in the main-scanning direction, across said end of the medium (col 2, line 67 – col 3, line 2)
- said liquid is ejected from the ejection head (col 4, lines 20-24)

**Claim 10:**

- wherein said liquid is ink (col 4, line 20)
- printing is carried out on a print medium, which said medium, by ejecting said ink from the ejection head (col 4, lines 20-24)



**Claim 11:**

- a liquid ejecting apparatus comprising a movable had for ejecting liquid (col 4, lines 20-24)
- a feed mechanism for feeding a medium (col 5, lines 15-16; figure 4, #44)
- a sensor for detecting a position of an end of said medium in the main scanning direction perpendicular to the feed direction (col 8, lines 13-14)
- wherein at least either a starting position or a terminating position, in said main scanning direction (col 8, lines 22-23), for ejecting said liquid is changed in accordance with a feed amount after the position of the end of the medium has been detected by the sensor (col 8, lines 10-14)

***Response to Arguments***

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

In paragraph 2 of the argument, the applicant asserted that no new matter had been added to the claims and that the amended claims merely contained more precise language. The examiner disagrees. The original claims 1-2, 4, and 11 did not disclose detecting a position of an end of the medium in a main-scanning direction. Because of the way the original claims were stated, the examiner took the end of the medium to be either the leading edge or the trailing edge of the medium, hence rejection by Arquilevich and Quintana. Therefore, the amended feature is seen to be new matter.

The applicant argues that neither Arquilevich nor Quintana teaches the amended feature of detecting a position of an end of the medium in the main-scanning direction, but instead teach the end position of the medium being the leading edge or the trailing edge of the medium. The examiner disagrees. As amended, both Arquilevich's and Quintana's teaching of detected end position still reads on the claim. The examiner's position is that the detected leading edge extends across the width of the medium, therefore making it "in the main-scanning direction". The same explanation is applicable to the applicant's assertion of Arquilech's and Quintana's absence of changing starting position or terminating position.

On page 8, first paragraph of the applicant's argument, the applicant argues that "Arquilevich fails to disclose or suggest changing the position at which a printhead begins to eject liquid before crossing a side edge of a print medium or changing the position at which a print head stops ejecting liquid after crossing the opposite side edge of the medium". However, this alleged teaching has not been clearly claimed.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

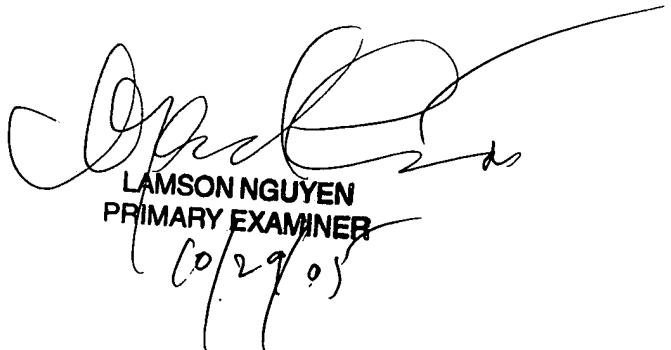
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D. Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LAMSON NGUYEN  
PRIMARY EXAMINER  
10/29/05